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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/731,878	12/08/2003	Robin Peng	3051-6244US	6708

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BAKER ASSOCIATES PLLC  
470 EAST NINTH AVENUE  
SALT LAKE CITY, UT 84103

EXAMINER

ELLIS, SUEZU Y

ART UNIT PAPER NUMBER

2878

DATE MAILED: 12/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/731,878	Applicant(s) PENG ET AL.	
	Examiner Suezu Ellis	Art Unit 2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 06 December 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☒ Claim(s) 22 and 27 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 May 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |                                                                                                                        |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                            | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

## **RESPONSE TO AMENDMENT**

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-27 have been considered but are moot in view of the new grounds of rejection.

### ***Claim Objections***

Claim 27 is objected to because of the following informalities:

With respect to claim 22, in line 2, remove "on".

With respect to claim 27, in line 2, replace "a on dimming movement" and "a of dimming movement" to --an on dimming movement-- and --an off dimming movement--.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claims 1 and 10, claim language recites "a non-contact electrical toggle switch" in the preamble. It is unclear if applicant means a "toggle switch" itself or

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a switch that toggles between two states (i.e. on/off). By definition (The American Heritage Dictionary of the English Language: Fourth Edition 2000), a "toggle switch" is "a switch that uses a toggle joint with a spring to open or close an electric circuit as an attached lever is pushed through a small arc". If this is applicant's intended meaning, how can the pushing of a lever through a small arc be performed without any contact? It seems that contact must be made to use a toggle switch. Please clarify. For examining purposes, "toggle switch" will be interpreted as a switch that toggles between *at least two states*. (Definition of "toggle" from The American Heritage Dictionary of the English Language: Fourth Edition 2000: To alternate between two or more electronic, mechanical, or computer-related options, usually by the operation of a single switch or keystroke.)

Further, with respect to claim 1, claim language recites "movement characteristics of duration, direction and distance", in lines 8-9. It is unclear what a movement characteristic of distance means in reference to mimicking the movements of a conventional switch. Is distance how far away from the switch the finger/hand is, or the vertical distance the hand would move (i.e. distance up and down)? Please clarify.

With respect to claims 1, 10 and 15, claim language recites "corresponds to how a conventional toggle switch would operate in response (respond) to the detected movement". This is unclear since a conventional switch does not respond to detected movements since there are no optical components in a conventional switch for the detection of movements. Please reword.

With respect to claim 21, claim language recites "an opposite substantially linear movement" in line 2. What substantially linear movement is applicant referring to for there to be an opposite of? Note, there is no substantially linear movement mentioned in claim 1. Please clarify.

Claim 22 recites the limitation " the substantially linear movement " in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.

With respect to claim 27, claim language recites "on dimming movement and an off dimming movement". It is unclear what an "on" and "off" dimming movement applicant is referring to. For example, referring to an "on dimming movement", does applicant mean the movement dims to decrease the lighting or to increase the lighting?

Claims not specifically addressed are indefinite due to their dependency.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 5, 9, 21, 23 and 24-27 are rejected under 35 U.S.C. 102(b) as being anticipated by McMahon (US 5,973,608).

With respect to claim 1, 21, 23, 25 and 26, McMahon discloses a non-contact electrical switch which turns a lighting fixture on and off via the movement of a hand

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towards or away from a control unit. As the hand moves closer to the control unit, the lighting levels increase, eventually turning fully "on" and the as the hand moves further away from the control unit, the lighting levels will decrease eventually turning fully "off" (col. 2, line 55 – col. 3, line 8). Note, McMahon fails to expressly disclose a motion detection element, however the system inherently has a motion detector since the motion of the hand coming closer or further away from the control unit is detected. Note, with respect to a conventional toggle switch, it is well known in the art that there are switches that turn on and off lighting loads via pushing in the switch.

With respect to claim 5, McMahon discloses the hand must come within a predetermined distance of the control unit, such as 6 inches (col. 2, lines 46-48).

With respect to claim 9 and 24, McMahon discloses the control unit may control an audio system, thus the audio system will output an audible signal when one of the movements (on) is detected (col. 1, lines 53-56).

With respect to claim 27, McMahon discloses when moving the hand closer to the sensor (off dimming movement), the light intensity increases, thus there would be less resistance (col. 2, lines 60-64).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walthall et al (US 4,305,006). Hereinafter, Walthall et al. will be referred to as Walthall.

With respect to claim 1, Walthall discloses a non-contact electrical switch having a motion detection element that can detect two independent movements (upward and downward) which mimics the movements required to physically switch a conventional switch, wherein the mimicking motion includes movement characteristics of duration, direction and distance (col. 1, lines 47-59; col. 3, lines 18-21, 42-60). Walthall further discloses if the detector detects one of the two movements, the electronic switching element will switch between a first state (ON – 100% load) and a second state (dimming – not 100% load). Walthall discloses two different movements switches the states (downward and upward), however fails to expressly disclose the movements being in a manner which corresponds to how a conventional switch (dimmer) operates, i.e. up = on, down = dim. However, it would be an obvious design choice to a person of ordinary skill in the art to modify the directional movements of Walthall to correspond to those of a conventional dimmer in order to not confuse the user. However note, in some user preferences, a conventional dimmer can be installed upside down, thus operating in the same manner as Walthall.

With respect to claims 2-4, Walthall discloses in Fig. 8, the motion detection element includes two emitters (D1, D1') and a detector (Q2), wherein the emitters are in

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vertical alignment with one another and the detector is positioned between the two emitters.

With respect to claims 6-8, Walthall discloses two visible position indicators (D4, D5) where each indicator is an LED that produces red and green colors.

With respect to claim 5, Walthall discloses the detector senses the passing of one's hand within about 3-4 inches of the detector.

Claims 10-13, 18, 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Endruschat et al. (US 5,594,238) in view of Walthall. Hereinafter, Endruschat et al. will be referred to as Endruschat.

With respect to claim 10, Endruschat discloses a non-contact switch comprising a processor that controls an emitter and that determines the presence of an object so that a toggle operation is initiated to toggle the switch (col. 4, lines 13-16, 42-44). Note, since the processor can determine the presence of an object, it is in communication with the detector. Endruschat further discloses the switch can determine the difference between a toggle motion (hand sweeping in front of the switch) and a non-toggle motion (inadvertent stepping in front of the switch), thus mimicking the movement of physically switching a conventional switch (col. 4, line 65 – col. 5, line 3). Endruschat fails to expressly disclose the sweeping hand motion is characteristic of the same direction as switching a conventional switch, however, it would be obvious to a person of ordinary skill in the art to have the system of Endruschat detect such a motion in order to not confuse the user since the user would already be used to the same switching motions of



a conventional switch. Endruschat fails to expressly disclose a pair of aligned emitters and the detector being positioned between the emitters. Endruschat and Walthall are directed to a similar field of endeavor of touchless switches. Walthall further discloses the detector being positioned between a pair of emitters. It would have been an obvious design choice to a person of ordinary skill in the art to modify the system to be of the same set up as Walthall in order to detect the direction of the sweeping hand motion.

With respect to claim 11, the modified Endruschat discloses that triacs can be used (col. 9, lines 46-49).

With respect to claims 12, the modified Endruschat discloses the detector can sense the movement up to five inches away (col. 9, lines 46-49).

With respect to claims 13, 18 and 19, the modified Endruschat fails to expressly disclose the non-contact switch having a visible indicator. Walthall discloses the inclusion of two visible position indicators where each indicator is an LED that produces red and green colors depending on the on/off state. It would have been obvious to a person of ordinary skill in the art to incorporate visible indicators to visibly indicate the switch state of the switch.

Claims 1, 15-17, 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Endruschat.

With respect to claims 1, 21 and 22, Endruschat discloses a non-contact switch which has a motion detection element that detects a toggle movement (sweeping hand motion) to toggle the switch, thus causing the switch to change between a first and

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second electrical state (on/off). Note, two independent movements must be detected in order to switch the non-contact switch on and off. Endruschat fails to expressly disclose the sweeping hand motion is characteristic of the same direction as switching a conventional switch (up = on and down = off), however, it would be obvious to a person of ordinary skill in the art to modify the motion to be upwards to turn the switch on and downwards to turn the switch off since the user would already be accustomed to those switching motions of a conventional switch.

With respect to claim 15, Endruschat discloses performing a toggling motion (sweeping pass of a hand), detecting the motion, timing the motion and determining whether the timing of the motion occurs within a predetermined time range, and switching the state of the electrical circuit (on/off) (col. 4, line 65 – col. 5, line 9). Endruschat fails to expressly disclose determining whether the motion is effected in a direction which corresponds to a change in the state of the electrical circuit, however, it would have been obvious to a person of ordinary skill in the art to determine if the motion is performed in a direction that corresponds to a conventional switch in order to not to the confuse the user who is already accustomed to performing the motions to use the conventional switch.

With respect to claim 16, opening and closing the electrical circuit when switching the state of the electrical circuit ("on" or "off") is inherent to the apparatus. When turning the switch on, the electrical circuit would be closed and turning the switch off, the electrical circuit would be opened.

With respect to claim 17, the modified Endruschat discloses the detector can sense the movement up to five inches away (col. 9, lines 46-49).

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Endruschat in view of Walthall and further in view of Lang (US 5,977,878).

With respect to claim 14, the modified Endruschat addresses all the limitations of claim 10, however, fails to expressly disclose an audio element configured to output an audible signal when the switching motion is detected. Lang discloses the inclusion of an audible sound as an indicator of when the switch changes states (col. 4, lines 5-7). Note the change of states occurs after switching motion is detected by the detector. It would have been an obvious design choice for a person of ordinary skill in the art to include an audible signal when the switching motion is detected, as another means of an indicator, in order to let the user know when the switch has changed states.

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Endruschat in view of Lang.

With respect to claim 20, the modified Endruschat addresses all the limitations of claim 10, however, fails to expressly disclose an audio element configured to output an audible signal when the switching motion is detected. Lang discloses the inclusion of an audible sound as an indicator of when the switch changes states (col. 4, lines 5-7). Note the change of states occurs after switching motion is detected by the detector. It would have been an obvious design choice for a person of ordinary skill in the art to

include an audible signal when the switching motion is detected, as another means of an indicator, in order to let the user know when the switch has changed states.

***Telephone/Fax Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Suez Ellis whose telephone number is (571) 272-2868. The examiner can normally be reached on 8:30am-5pm (Monday-Friday).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on (571) 272-2328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Stephone B. Allen  
Primary Examiner